PLEASE SAVE OUR GPS

Who utilizes sub-centimeter global positioning systems (gps)?

The land surveying and engineering communities, geologists, instrument companies, precision farming communities, universities, contractors, municipalities, cities, counties, states, the US military, the Army Corps of Engineers, the Bureau of Reclamation, the Bureau of Land Management, and every single state department of transportation to name a few.

Why gps?

Gps opened a new horizon for accuracy, national accuracy. It allowed for the mapping of far fetched water, sanitary sewer, storm sewer, power grids, highway systems, waterways, shipping lanes, air travel. Geographical information systems are based on gps technology and provide for schedules of land planning and maintenance of communities. Gps provided a means of accurate control for surveying large areas of land, such as a Wisconsin project from 1995 when control was set and aerial photos were produced in the area from one county north of the Wisconsin River to the Illinois border, and from Rock and Dane Counties to the Mississippi River. The Height Modernization for the State of Wisconsin was executed using gps. The accuracy allows us to observe the shift of the continental plates while providing the ability to span a deep gorge or river and place the proper alignment for bridges. Gps surveys provide accurate information for a fraction of the cost of conventional surveying; the information gathered is presented in a format that has become a universal norm for engineers, architects, designers using CADD systems.

Who paid for the R & D for its development?

The Department of Defense initiated the project with the space program by sending up a constellation of satellites. When the space shuttle blew up on the launch pad because of faulty o-rings, the limited scope of the incomplete project was jeopardized. The land surveying communities in the government, the private sector and academia joined forces salvaging more than was ever imagined was possible from the project. When it was resumed those additions multiplied the potential, opening new horizons for employment in technology fields which had 10 years before occupied only a dream in a Buck Rogers comic strip; it was no longer just a top secret government program, but an industry that drove itself into the very fiber of world commerce and industry.

How is it used?

I have used gps to survey sections, search for evidence of land boundaries; stake construction projects such as golf courses, roads, wetlands, water and sewer lines; map parcels of land for flood and drainage studies; stake buildings, map wetlands, rivers, lake beds, roads, commercial and private properties, and repeat the mapping process to reflect how the construction work was completed. The airline industry and the shipping industry depend heavily on gps for ensuring safety standards for the public. Who can deny the contributions gps has made to the military?

Who are the beneficiaries of the technology?

The biggest beneficiaries are probably the clients: engineers and who need accurate detailed topographical information for planning and execution of projects in a timely manner; rapidly expanding municipalities that use the information for cataloging and maintenance of infrastructure and utilities; utility companies for expansion and maintenance; anyone using the land surveyors who have been able to provide more accurate and timely products, reducing the costs to everyone concerned; the farmer
who makes better use of the land being able to fertilize according to the needs of the soil as indicated by the the proven yields of that land instead of random soil sampling and a shotgun fertilizing approach based on the worst relative sample; where can we start again to replace the developed technology that directly addresses the problem of starvation and world hunger?

What is the price of losing it?

Nothing we currently have that can replace gps. Gps is, by far, the most cost effective method of completing large scale projects and farming. Before gps, 8 miles of centerline traverse was a great day using a total station.

Example 1: In the late winter and spring of 1995, I participated in a survey that filled a 5 county area of Wisconsin with enough control points that we were always within a 6 mile radius of 2 points and we integrated this network with those of the two counties to the east.

Example 2: Without gps, I cannot imagine completing the 40 acre topo farm drainage flood study, processing the data, creating a plan and staking the solution within a 24 hour period; this was my personal norm, not an exception on a pedestal.

Example 3: Without gps, farm field fertilization will be determined by the best guess instead of exact application exactly where the soil needs it, reducing the cost of fertilizer and the elevated runoff concerns in the adjoining watersheds.

Example 4: How is it possible to compensate for current investment of government, public and private concerns that are heavily invested in this current international standard?

Example 5: Do you want to be a passenger in a jet that is trying to land in heavy weather without gps?

Example 6: How smart will smart bombs and cruise missiles be without the gps light in their guidance systems?

Example 7: How many people could benefit from the increased international production of food?